

PATENT CLAIMS

1. Apparatus for determining and/or monitoring a physical or chemical variable in a process, comprising at least one field device (2),
wherein the field device (2) exchanges data with a remote control station (8) via a data connection (6;7),
wherein, electrically connected with the field device (2), at least one fuel cell (3) is provided, which at least partially covers the energy requirement of the field device (2), and
wherein the fuel cell (3) is arranged remotely from the field device (2).
2. Apparatus as claimed in claim 1,
wherein the data connection (6;7) between the control station and the at least one field device (2) is accomplished wirelessly, or via a data line (6).
3. Apparatus as claimed in claim 1 or 2,
wherein multiple field devices (2) are provided, which are electrically connected with the at least one fuel cell.
4. Apparatus as claimed in claim 2,
wherein the data line (4) is a field bus or a two-wire line.
5. Apparatus as claimed in claim 4,
wherein the at least one fuel cell (3) is connected with the at least one field device (2) via the field bus (4), or the two-wire line.
6. Apparatus as claimed in claim 1, 3, or 5,
wherein the at least one fuel cell (3) is arranged in the control station (8).

7. Apparatus as claimed in claim 1,
wherein the at least one field device (2) is connected, at least
at times, with a first fuel cell (3) and a second fuel cell (3).

8. Apparatus as claimed in claim 7,
wherein the field device (2) is connected, at least at times,
with only one of the two fuel cells (3).

9. Apparatus as claimed in one or more of the claims 1 through
8,
wherein multiple fuel cells (3) are combined into a fuel cell
package (9).

10. Apparatus as claimed in claim 1 or 9,
wherein the at least one field device (2) is positioned in an
area where there is danger of explosion.

11. Apparatus as claimed in claim 1 or 9,
wherein a monitoring unit (11) is provided, which issues a
warning/error report as soon as the energy supplied by the at
least one fuel cell (3) falls beneath a predetermined limit
value.

12. Apparatus as claimed in claim 1 or 11,
wherein a fueling unit (12) is provided, via which the at least
one fuel cell (3) can be fueled.